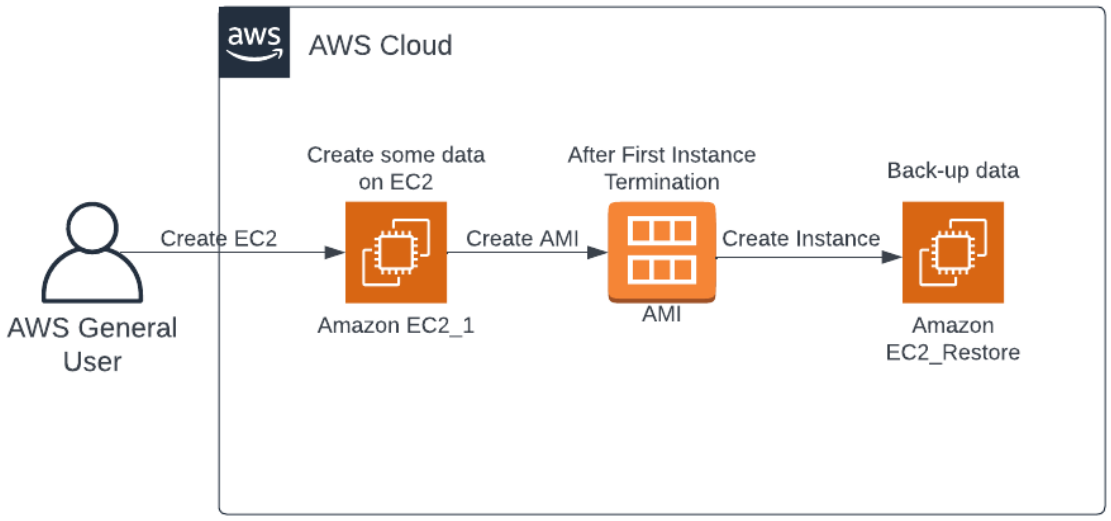
Data Preservation Strategies for EC2 Instances: Safeguarding Your Information Before Destruction

we will explore how to preserve data in our EC2 instance before it gets destroyed.

Use Case: Imagine you are responsible for an e-commerce website hosted on an EC2 instance. You decide to upgrade your application to a newer version. Before initiating the upgrade, you need to preserve customer data, transaction records, and other critical information stored on the instance to ensure a seamless transition and avoid any data loss.

Overview:



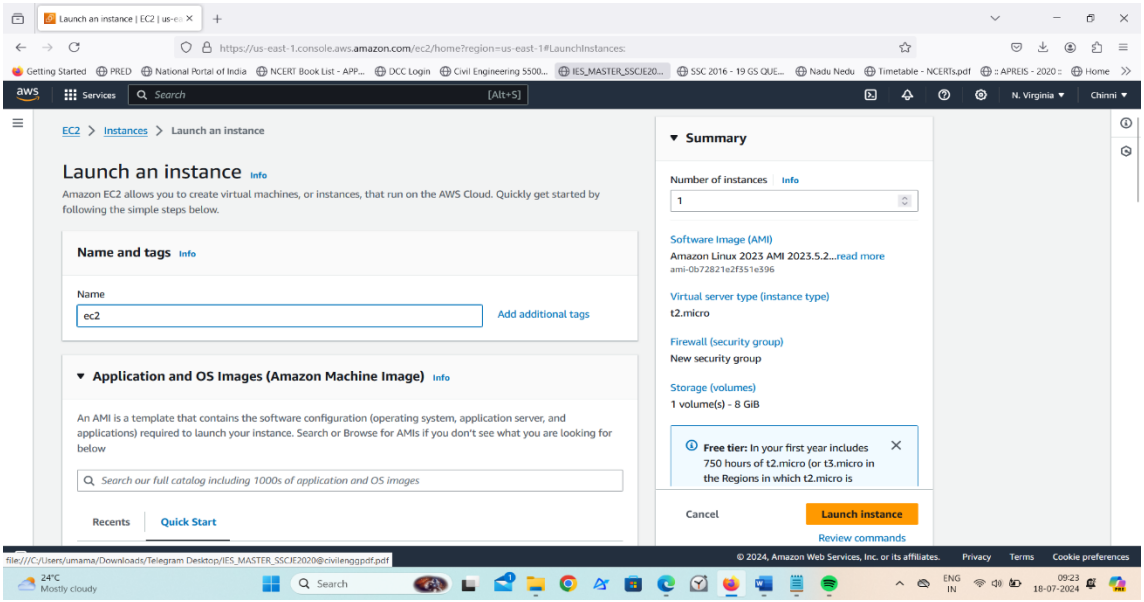
EC2 (Elastic Compute Cloud) is a web service from AWS that allows users to rent virtual computers on which they can run their own applications.

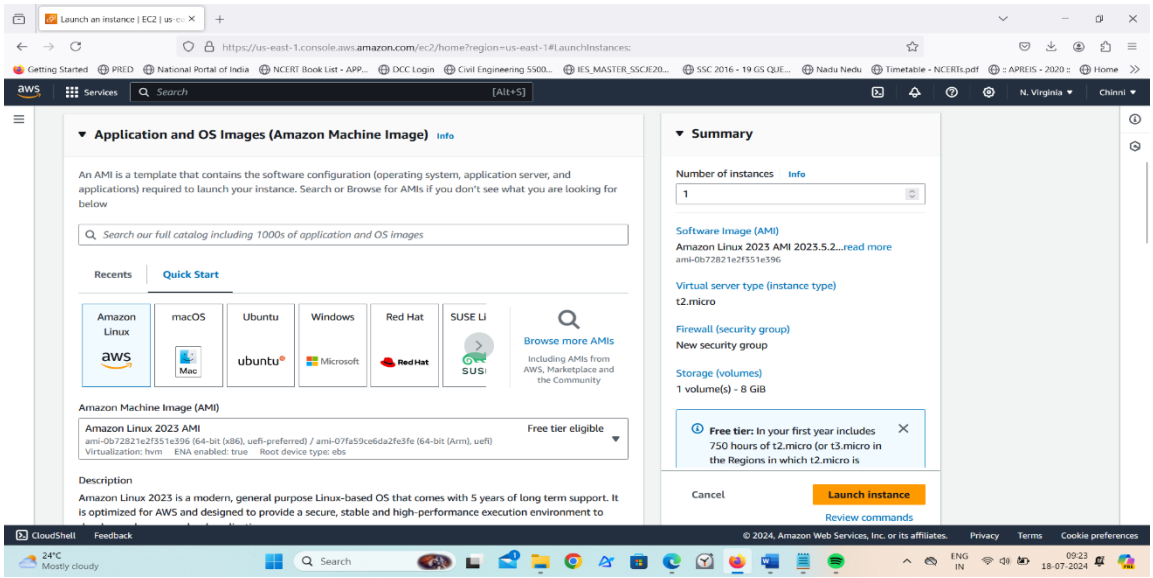
AMI stands for **Amazon Machine Image**. It is a pre-configured template used to create virtual machines (instances) within the Amazon Elastic Compute Cloud (EC2)

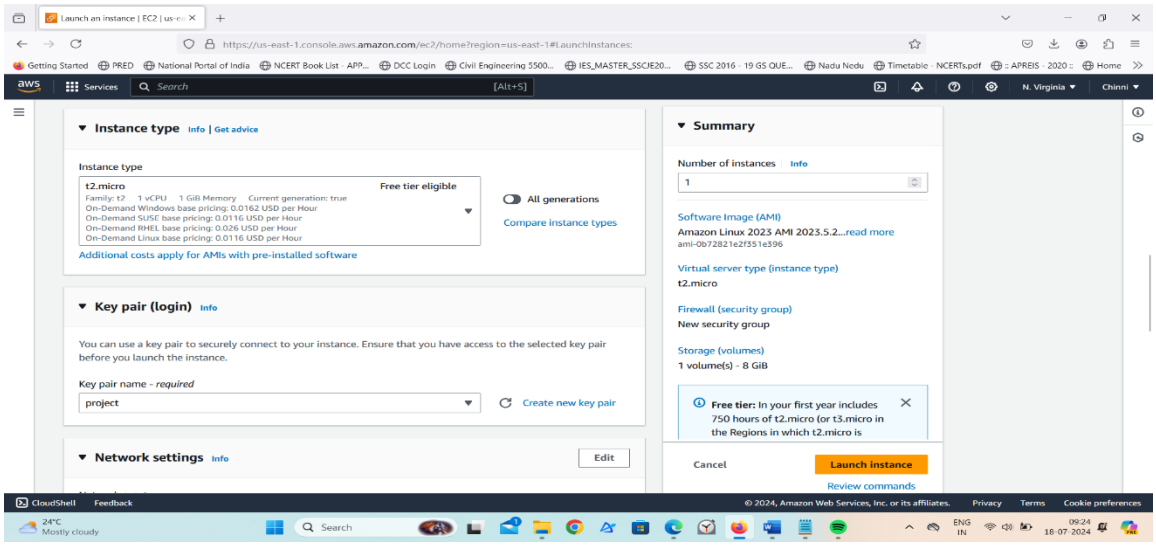
Steps to create it:

Step1: Create an EC2 instance.

Give name or tag for it. Choose AMI as you want. choose instance type.

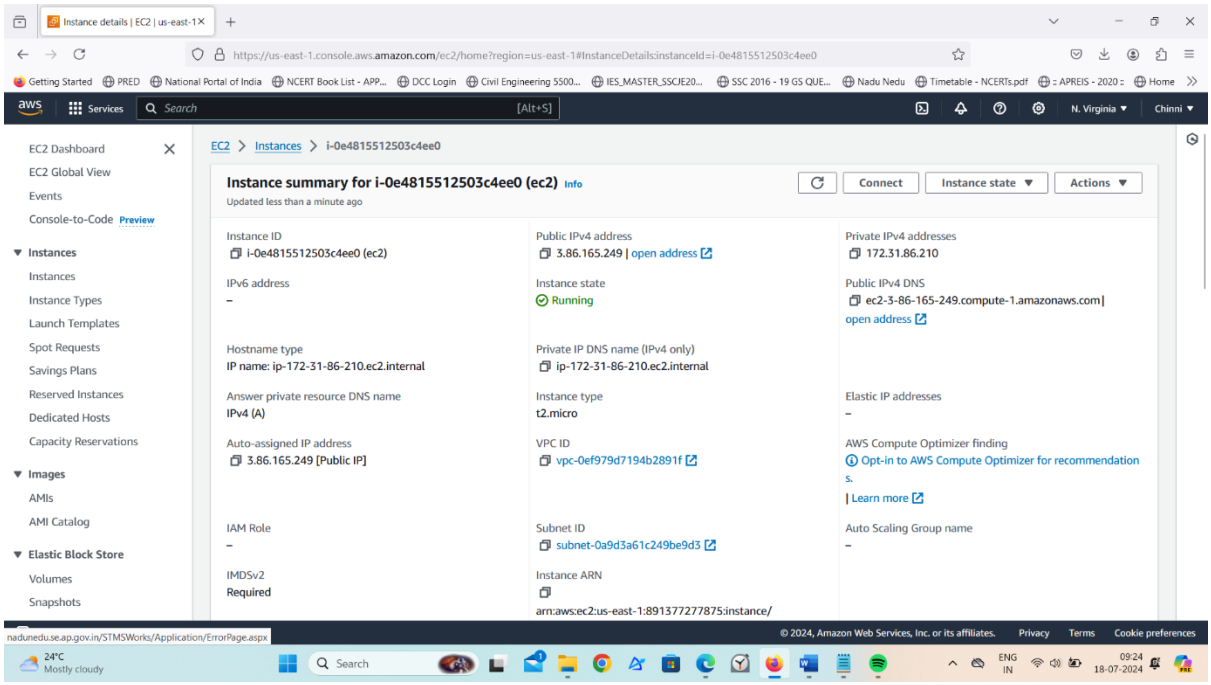




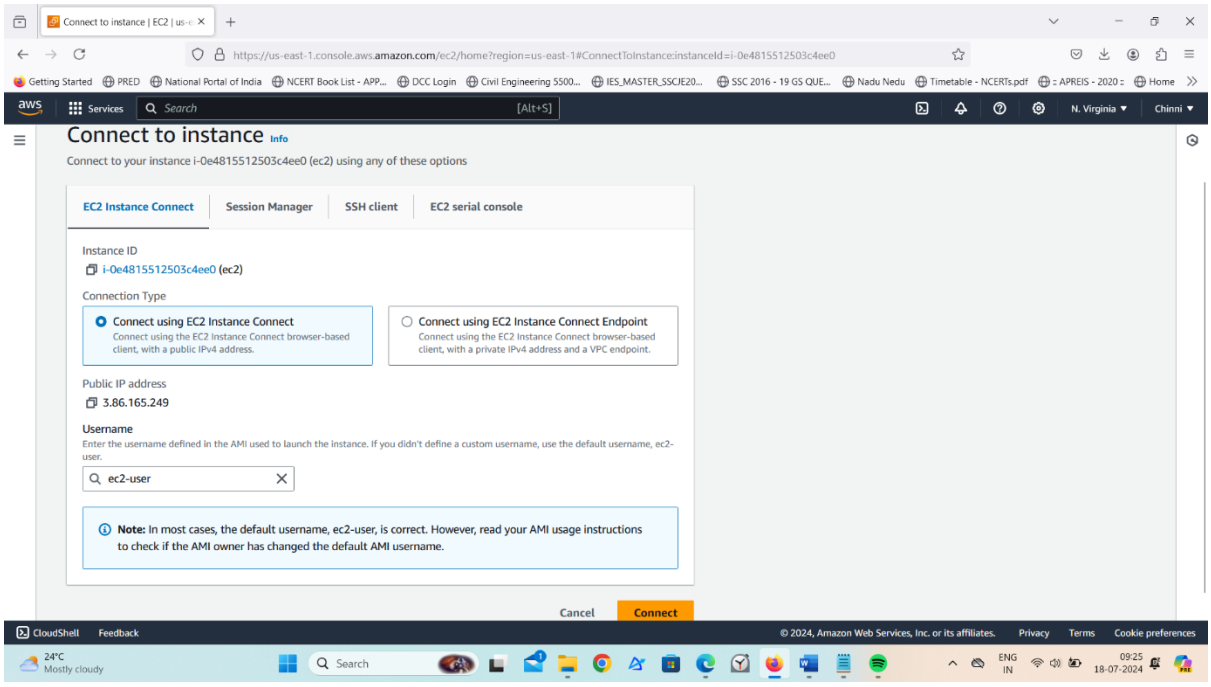


Click on launch instance.

After running the instance click on instance id. Click on connect.



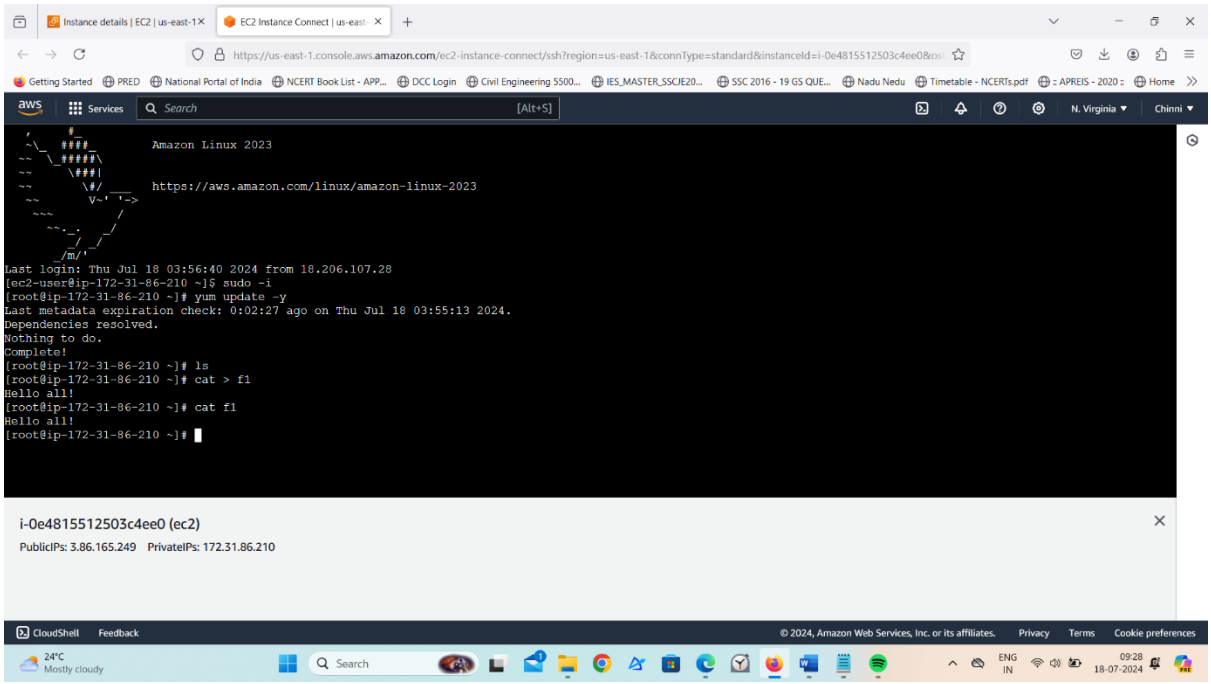
Click on connect



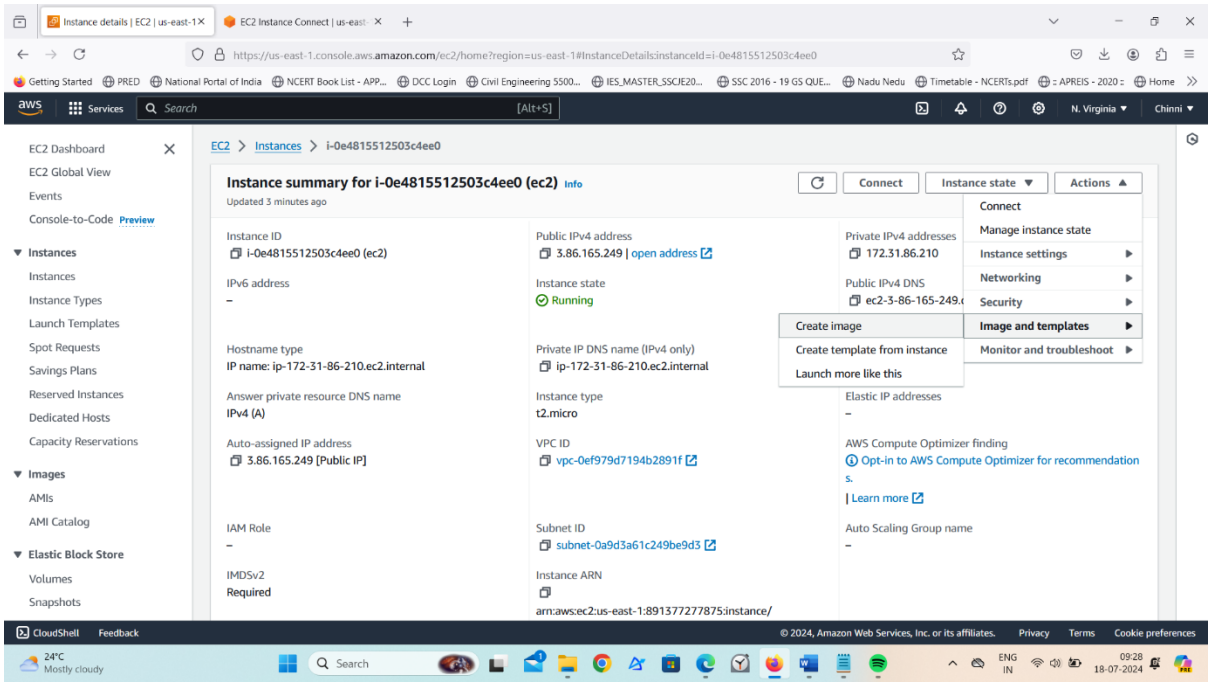
sudo -i → convert to root user

yum update -y →updates the server

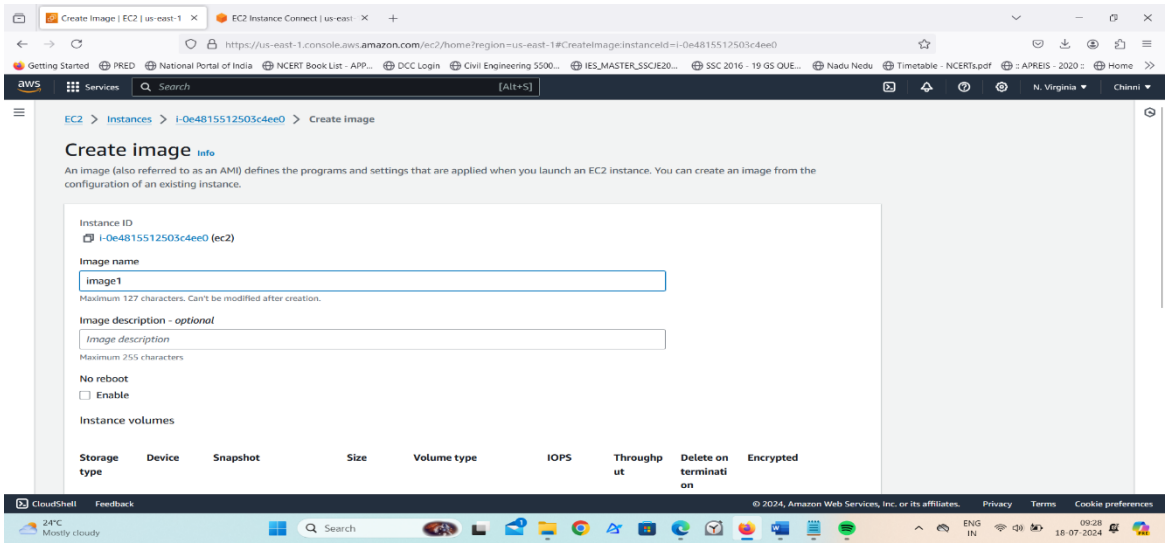
Create one file in it using cat command.



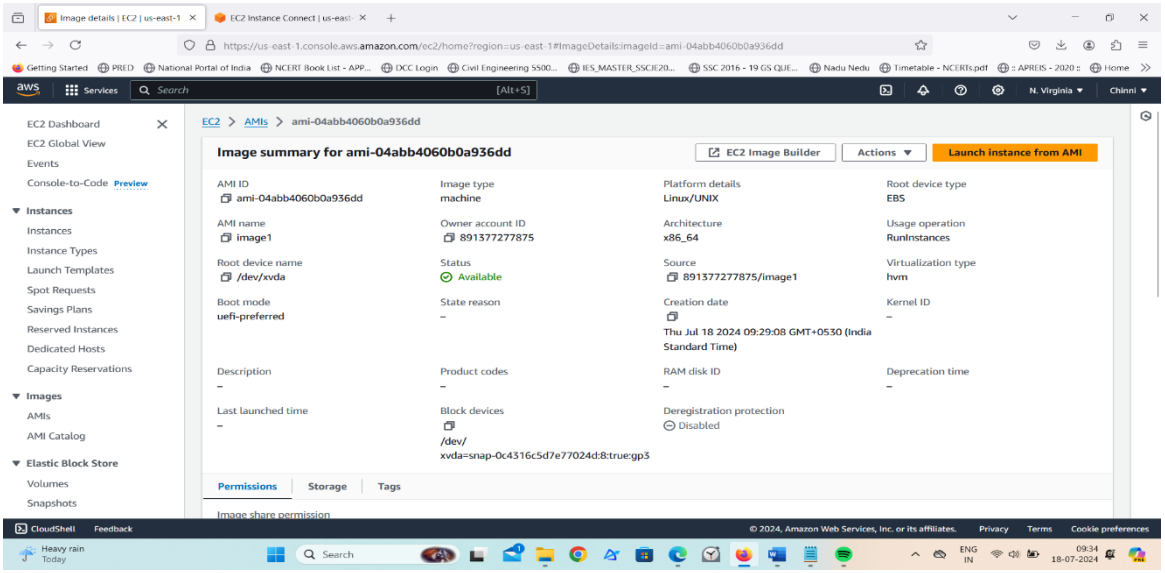
Now go to instance, click on instance id. Go to actions tab select image and templates in it select create image.

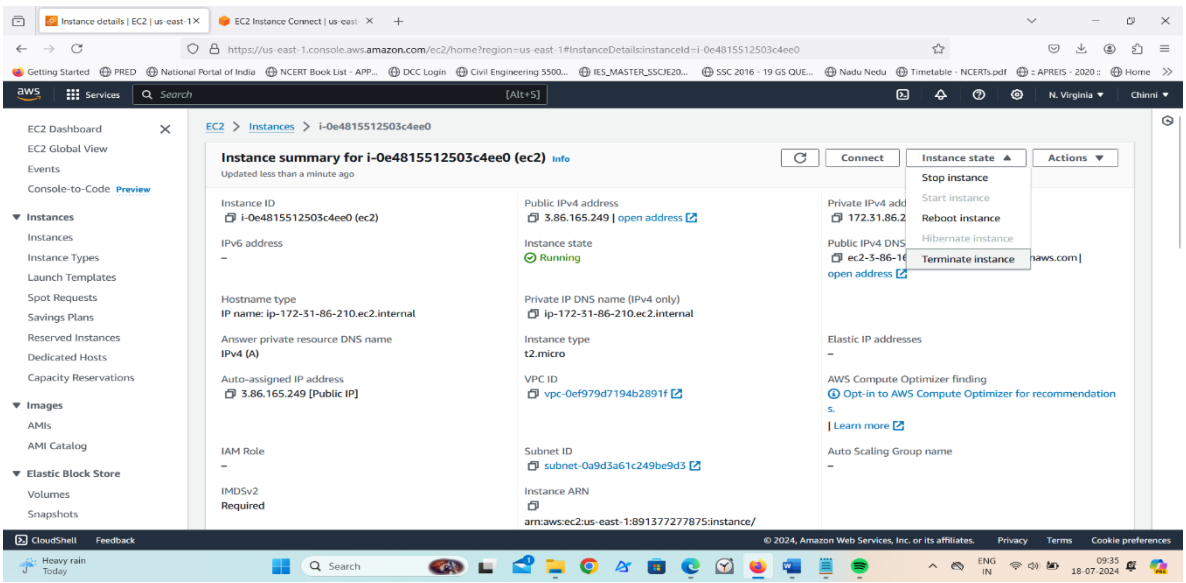


Give image name and click on create image



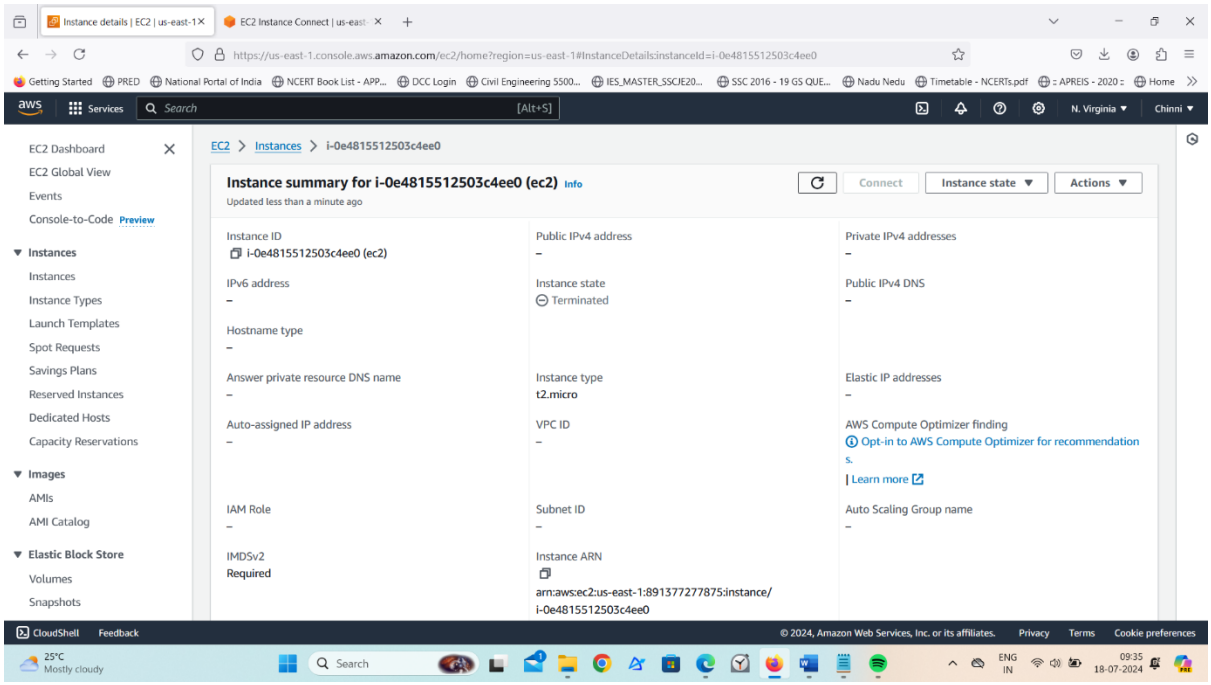
Wait until our image is to be available.





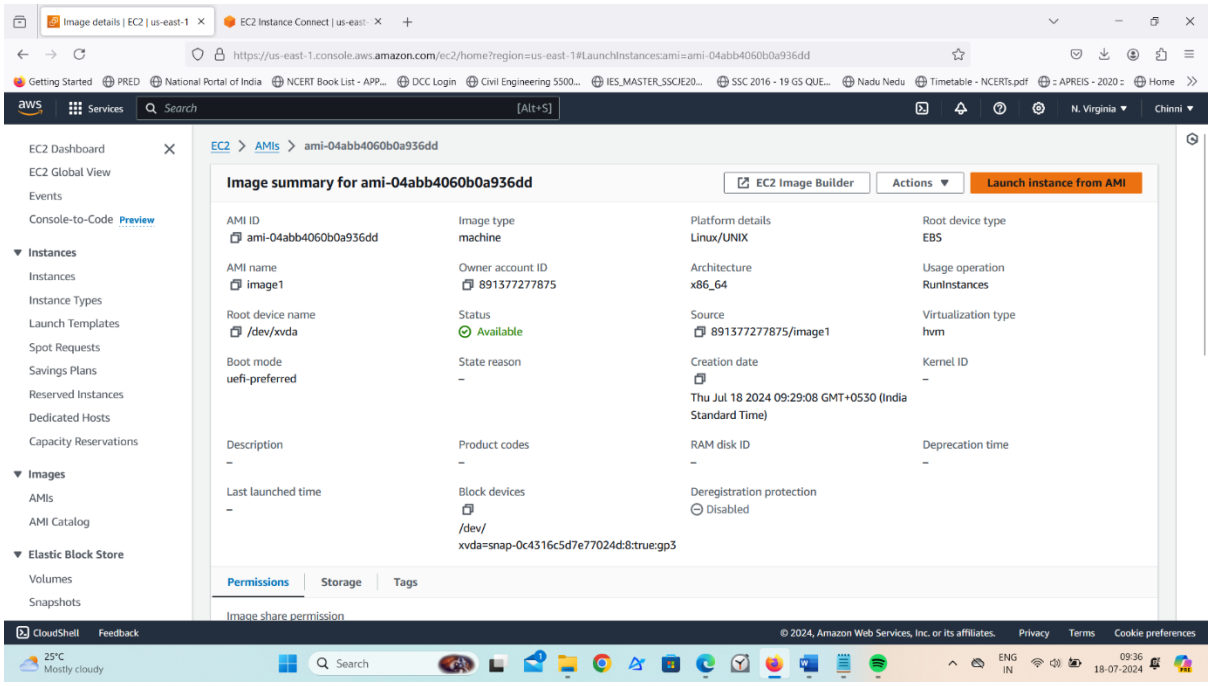
Go to instance click instance state tab, select terminate instance.

Terminate the instance.

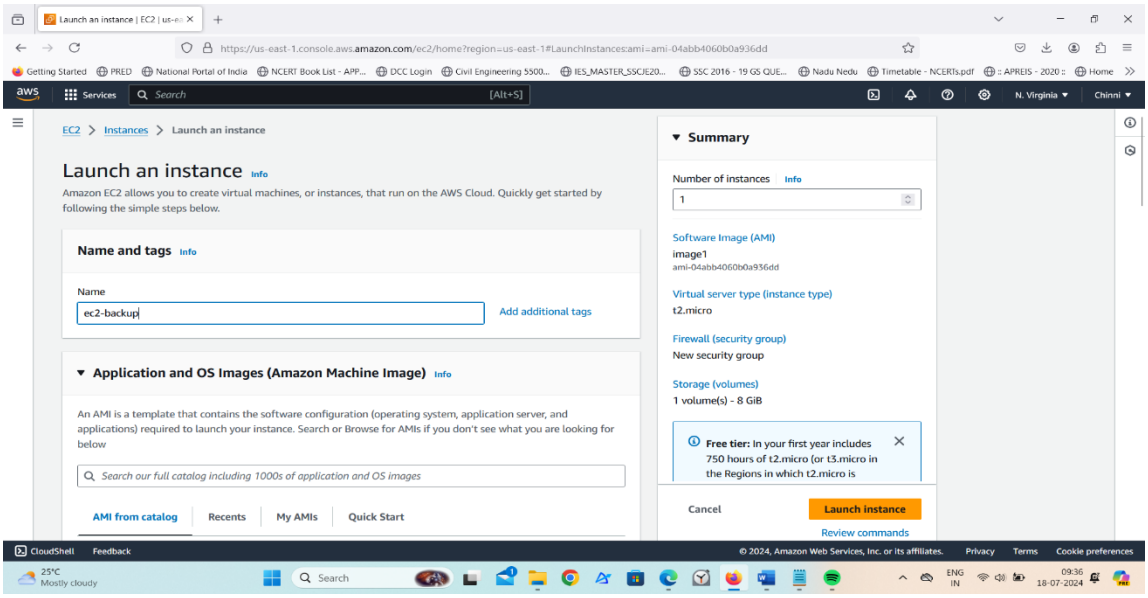


Go to AMIs in ec2 dashboard. Click on our image.

Click on AMI id. Click on launch instance from AMI.



Give name/tags. Choose instance type and keypair. Click on launch instance.


Launch an instance | EC2 | us-east-1
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:ami=ami-04abb4060b0a936dd
Services
Search
[Alt+S]
N. Virginia
Chinni
EC2 > Instances > Launch an instance
Launch an instance Info
Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.
Name and tags Info
Name
ec2-backup
Add additional tags
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
AMI from catalog
Recents
My AMIs
Quick Start
Summary
Number of instances Info
1
Software Image (AMI)
image1
ami-04abb4060b0a936dd
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is
Cancel
Launch instance
Review commands
CloudShell
Feedback
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Privacy
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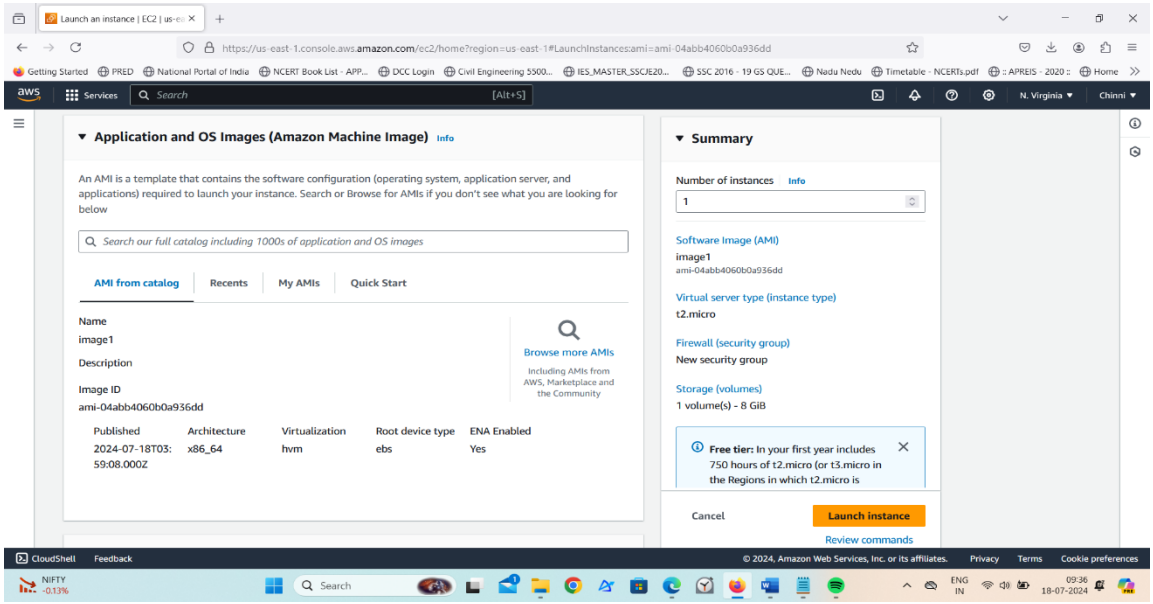
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
AMI from catalog
Recents
My AMIs
Quick Start
Name
image1
Description
Image ID
ami-04abb4060b0a936dd
Published
2024-07-18T03:59:08.000Z
Architecture
x86_64
Virtualization
hvm
Root device type
ebs
ENA Enabled
Yes
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Summary
Number of instances Info
1
Software Image (AMI)
image1
ami-04abb4060b0a936dd
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is
Cancel
Launch instance
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CloudShell
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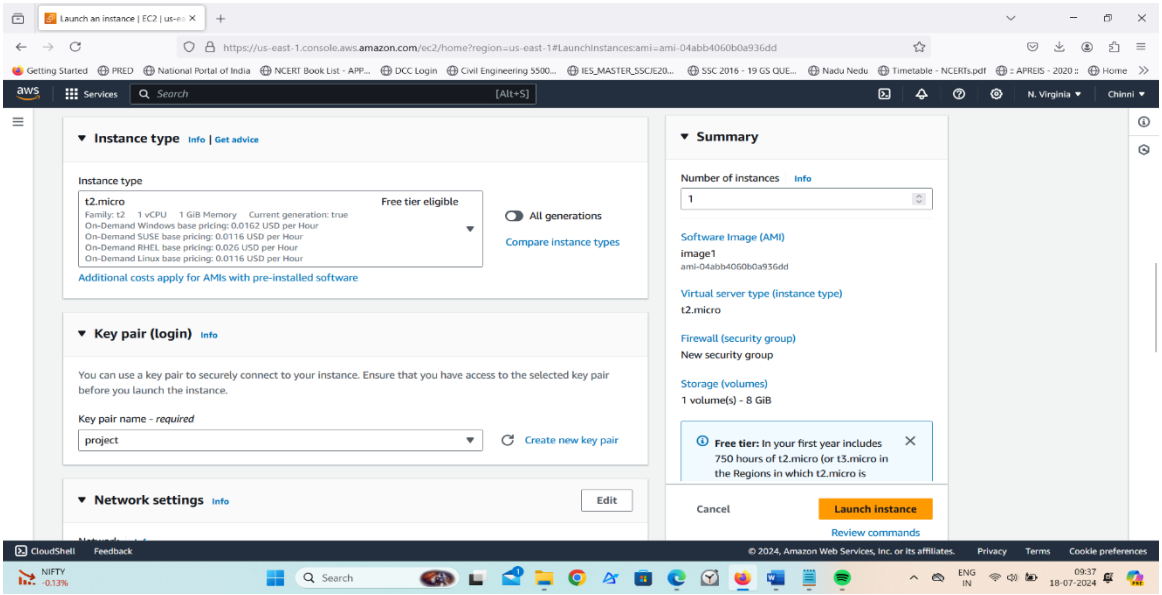
Instance type Info | Get advice
Instance type
t2.micro
Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.026 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour
All generations
Compare instance types
Additional costs apply for AMIs with pre-installed software
Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name - required
project
Create new key pair
Network settings Info
Edit
Summary
Number of instances Info
1
Software Image (AMI)
image1
ami-04abb4060b0a936dd
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
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Cancel
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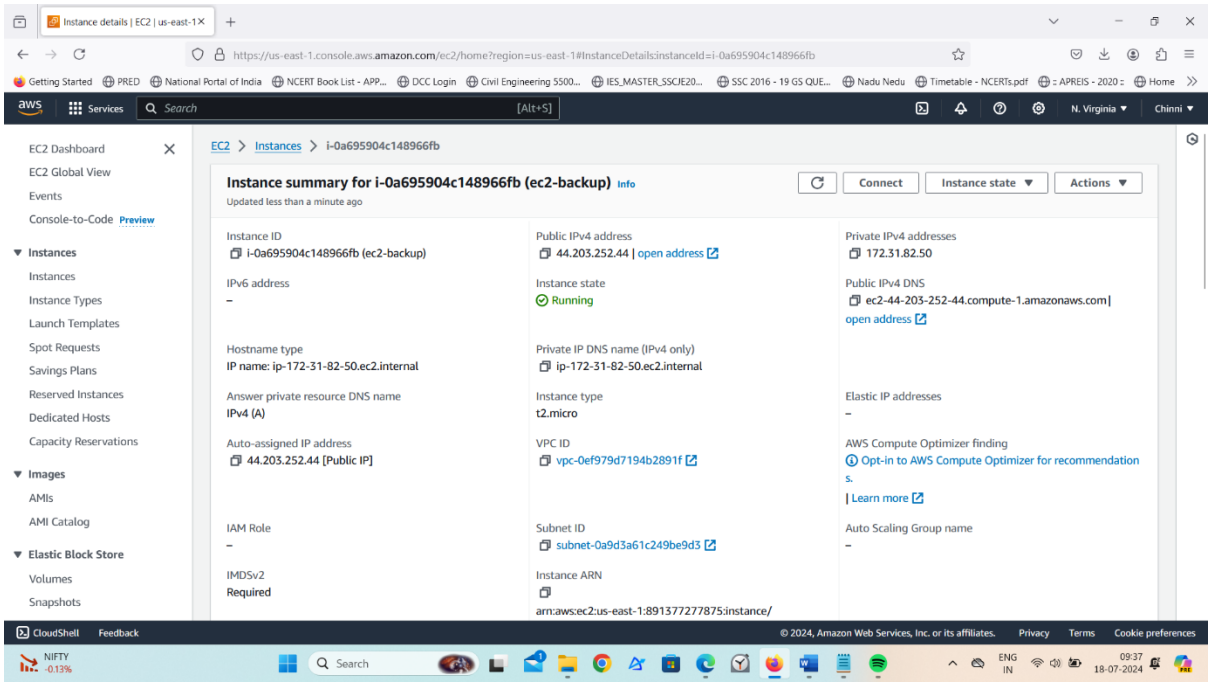
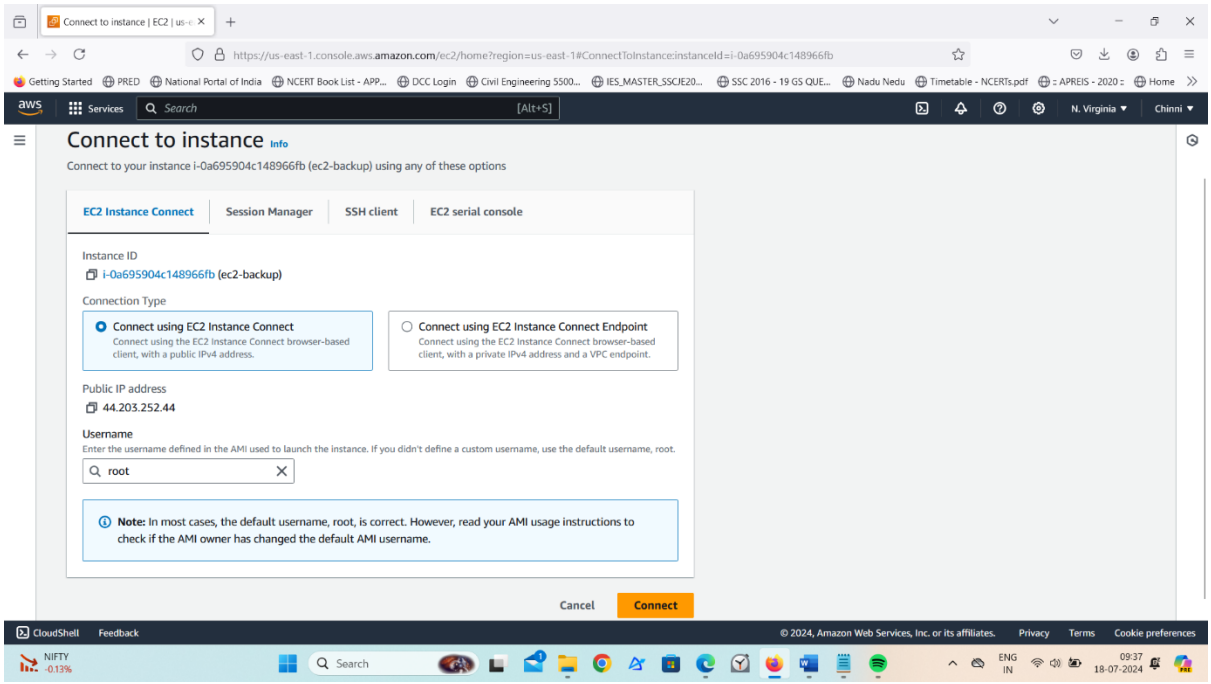
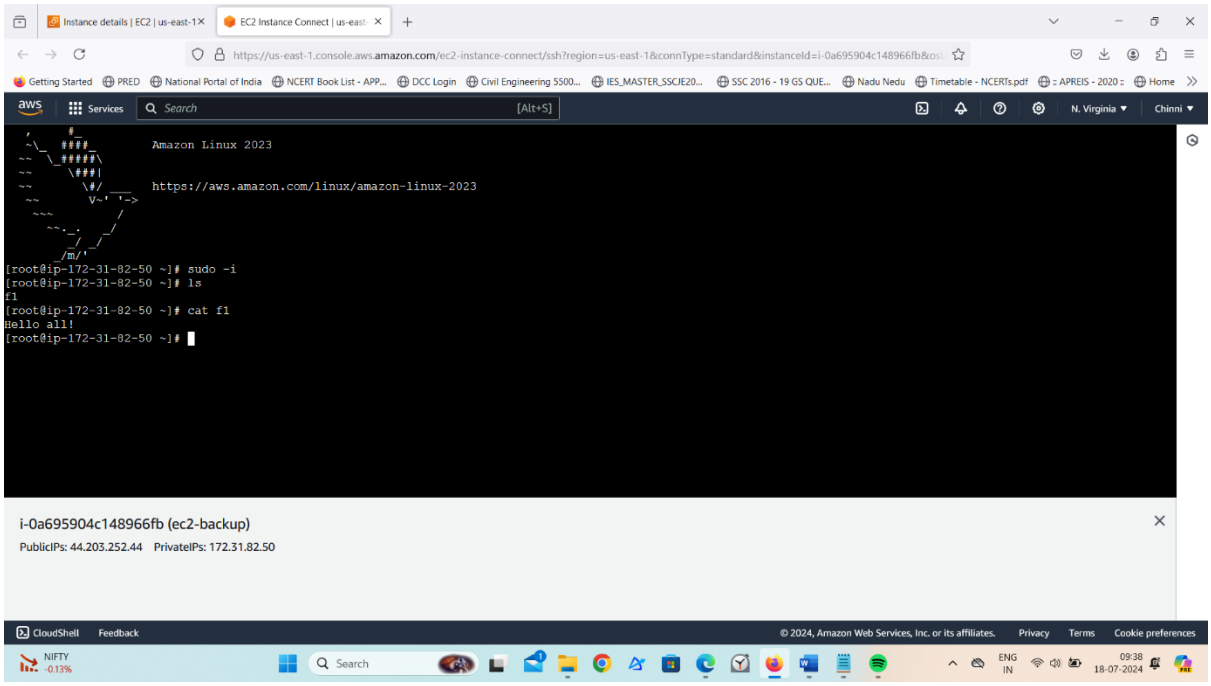
Connect to the instance.





We our data is restored in this instance.



Conclusion:

Effective data preservation strategies for EC2 instances are crucial for safeguarding important information from loss or unauthorized access. Regular backups, encryption of sensitive data, and secure deletion practices are essential components of these strategies. Leveraging AWS services such as EBS snapshots for backups and AWS KMS for encryption enhances data security. It's also important to adhere to a clear data retention policy and conduct regular monitoring to ensure data integrity and availability. These measures are vital for maintaining the security and reliability of data within EC2 environments, supporting uninterrupted business operations.